If you are looking for reliable and powerful wireless network for your company?

Budget is kinds of tight? If you are willing to spend about $3500(U.S), this solution would be fit for your company needs. Cisco 500 Series Wireless Express Mobility System is the one that made us so impressed.

**Cisco Wireless Controller WLC526 = $2500 (x1)**
**Cisco Wireless Access Point AP521 = $250 (x4)**

You can check Cisco website to see more details what coverage of 4 x APs would be, performance and reliability. Here is brief scale of actual site that is running by Cisco Wireless Express Mobility System.

• About 2 Acre (40000Sq, 2nd floor building)
• 20~50 concurrent wireless users
• VLANs - Regular user traffic must be separated from guest traffic
• Many security features and options such as strong Encyption and controlling traffic by layers.

See below tips and guides, it would be big help if you pick this Cisco Wireless Express Mobility System Solution.

Simple we divided three VLANs for few reasons such as security and reduced unnecessary traffic on each network boundary

- VLAN 20 = Guest Network (Who can access Internet / but not Intranet)
- VLAN 30 = User Network (Who can access Internet and Intranet)
- VLAN 40 = AP-manager Network (Network for Cisco WLC526 and AP521)

There are two ways to configure Cisco 500 Series Wireless Express Mobility gears : GUI and Console mode.

Cisco recommends a using "Cisco Configuration Assistant" for initial configuration, but I preferred to use console mode, not just b/c I am used to it. Some of terminology used in the box easily make you confused, while you are setting up WLC(Cisco Wireless Controller) 526.

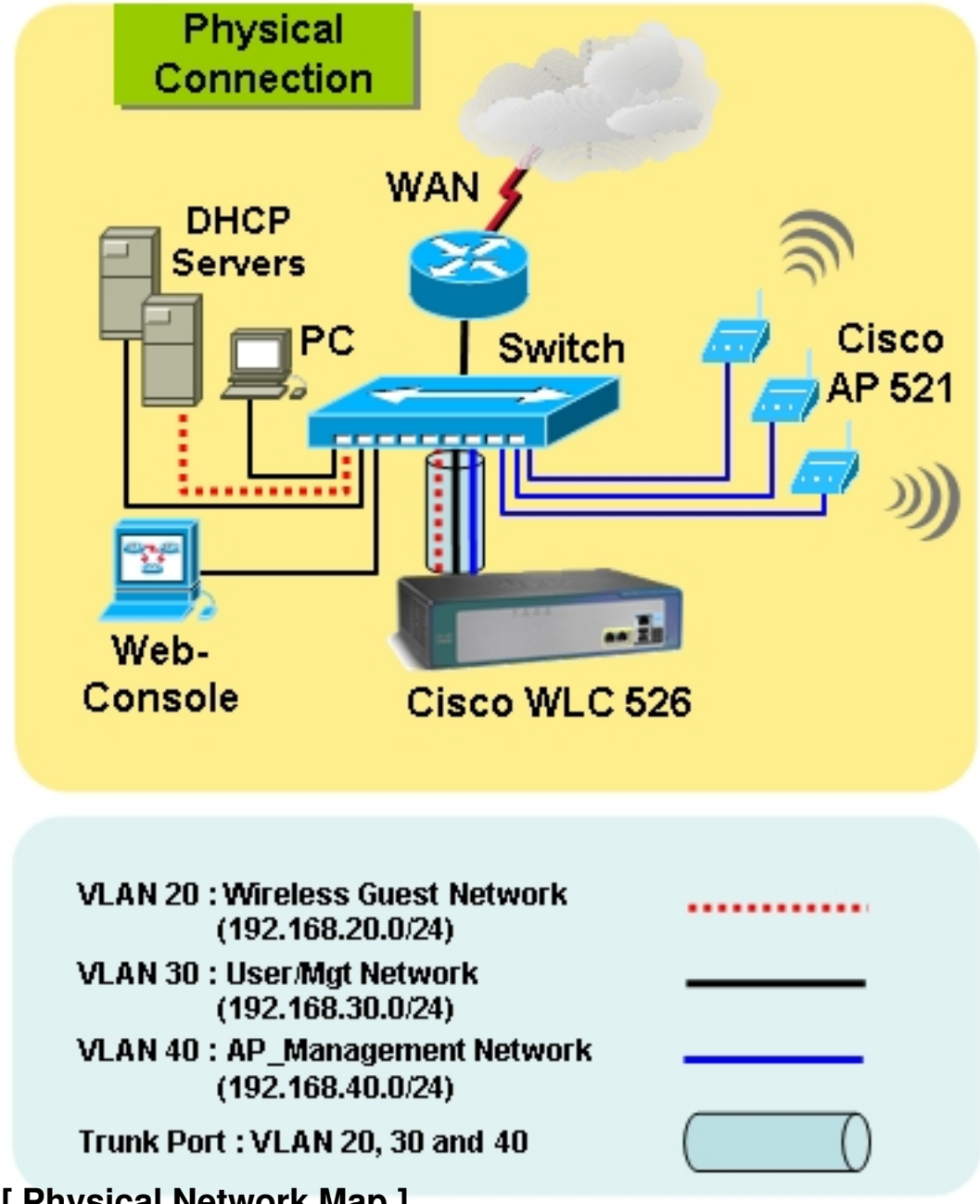
• **Management VS. AP-manager interface** : Very important to know that Management interface means which you can access WLC 526 for modification , creation and apply. But AP-management interface is not for user. It is for AP521. The interface is communicating to Cisco AP521s. You cannot access the Cisco WLC526 using AP-manager interface IP.

• **Cannot change VLAN tagging info by GUI configuration mode** : If you didn't specify VLAN number, while you were configuring the box using either GUI or console mode, you cannot modify VLAN tag later. Make sure configuring VLAN numbers.

• **DHCP server for all VLANs** : Don't forget DHCP server prepared for VLAN 20

and VLAN 30. VLAN 40 will automatically discover Cisco AP521s. (IP will be assigned within a given network range). See below physical network map.

Look closer actual Cisco AP521 is physically connected to Switch. **On your switch setting, you must configure trunk mode a port to connect Cisco WLC526.**




**[ Physical Network Map ]**

See logical traffic flow below. Cisco AP521 will communicate with Cisco WLC526 thru VLAN 40 (192.168.40.0/24). Guest traffic which allow to access only Internet.

Guest traffic flow : **Cisco AP521 --> Cisco WLC526 --> Tagged VLAN 20 (192.168.20.x/24) --> Router --> WAN --> Internet**

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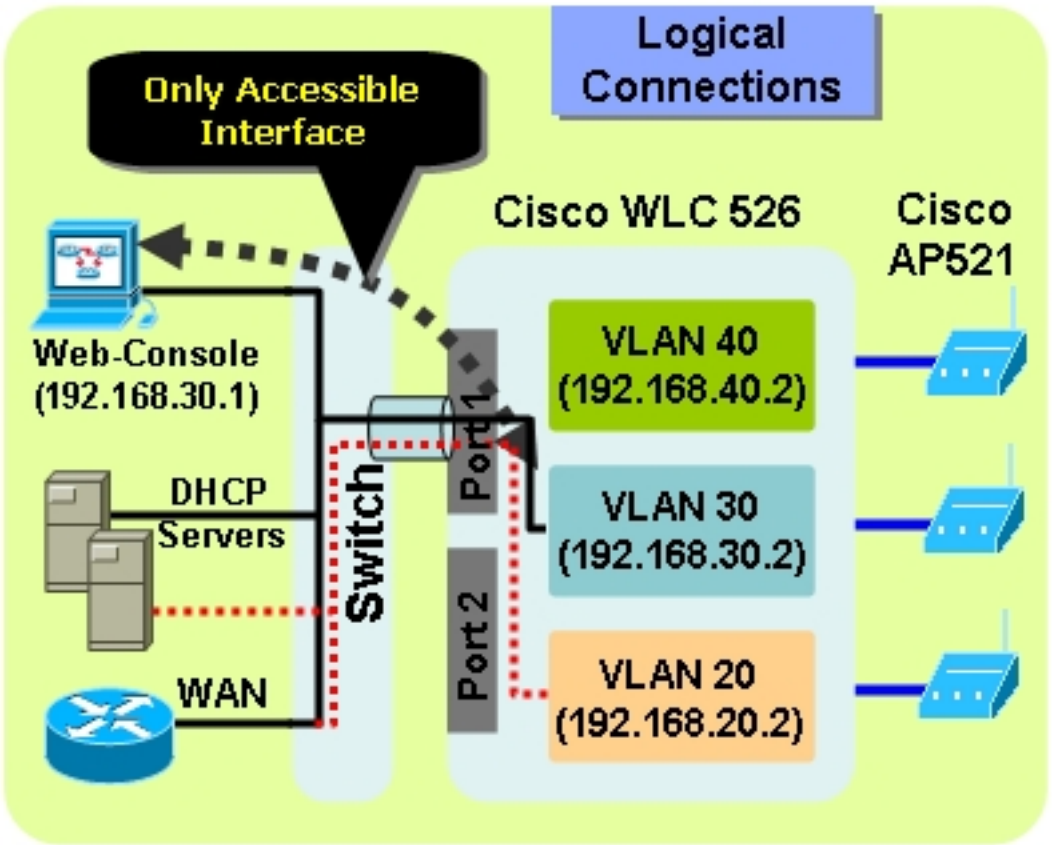
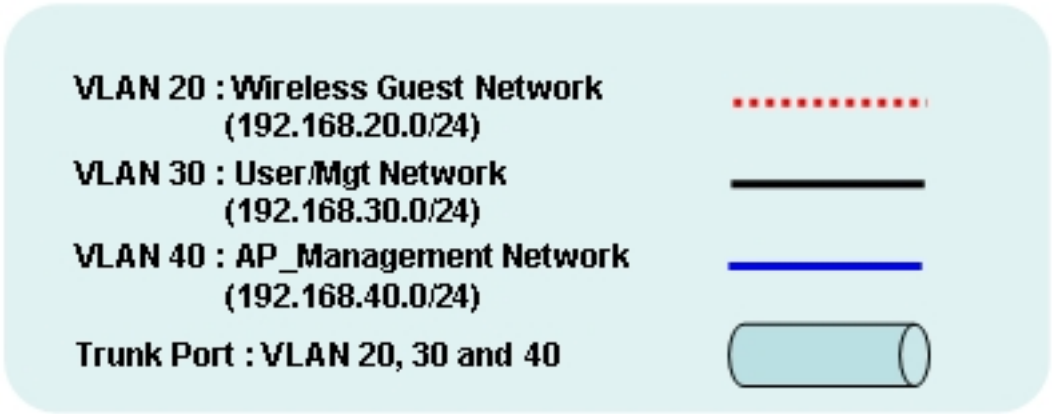
# "You can only access Cisco WLC 526 thur management interface"





VLAN 20 : Wireless Guest Network (192.168.20.0/24)
VLAN 30 : User/Mgt Network (192.168.30.0/24)
VLAN 40 : AP_Management Network (192.168.40.0/24)
Trunk Port : VLAN 20, 30 and 40

## [ Logical Network Map ]

Below output is a screen shot of Cisco WLC526 configuration (by console mode). Keep it in mind an usage of each interface and What VLAN tags are assigned.

```
Press Enter to continue or <Ctrl-Z> to abort

Interface Configuration
Interface Name................................... ap-manager
MAC Address...................................... 00:1b:2a:be:b5:20
IP Address....................................... 192.168.40.2
IP Netmask....................................... 255.255.255.0
IP Gateway....................................... 192.168.40.254
VLAN............................................. 40
Physical Port.................................... 1
Primary DHCP Server.............................. 1921.68.40.254
Secondary DHCP Server............................ Unconfigured
DHCP Option 82................................... Disabled
ACL.............................................. Unconfigured
AP Manager....................................... Yes
Guest Interface.................................. No

Interface Name.....................................      guest
MAC Address...................................... 00:1b:2a:be:b5:20
IP Address....................................... 192.168.20.2
IP Netmask....................................... 255.255.255.0
IP Gateway....................................... 1291.68.20.54
VLAN............................................. 20
Quarantine-vlan.................................. 0
Physical Port.................................... 1
Primary DHCP Server.............................. 192.168.20.254
Secondary DHCP Server............................ Unconfigured
DHCP Option 82................................... Disabled
ACL.............................................. Unconfigured
AP Manager....................................... No
Guest Interface.................................. No

Interface Name................................... management
MAC Address...................................... 00:1b:2a:be:b5:20
IP Address....................................... 192.168.30.2
IP Netmask....................................... 255.255.255.0
IP Gateway....................................... 192.168.30.254
VLAN............................................. 30
Quarantine-vlan.................................. 0
Physical Port.................................... 1
Primary DHCP Server.............................. 192.168.30.254
Secondary DHCP Server............................ Unconfigured
DHCP Option 82................................... Disabled
ACL.............................................. Unconfigured
AP Manager....................................... No
Guest Interface.................................. No
```

```
(Cisco Controller) >show interface ?

summary        Display a summary of the local interfaces.
detailed       Display detailed interface information.

(Cisco Controller) >show interface summary

Interface Name                  Port Vlan Id  IP Address      Type    Ap Mgr Guest
------------------------------- ---- -------- --------------- ------- ------ -----
ap-manager                      1    40       192.168.40.2    Static  Yes    No
     guest                      1    20       192.168.20.2    Dynamic No     No
management                      1    30       192.168.30.2    Static  No     No
virtual                         N/A  N/A      1.1.1.2         Static  No     No
```

[ Interface Output from Cisco WLC526 ]

I hope it helps you and informative whoever planning to install Cisco 500 Series Wireless Express Mobility System.